VOLUME XIII NUMBER 7

THE ELEMENTARY SCHOOL TEACHER

MARCH 1913

EDUCATIONAL NEWS AND EDITORIAL COMMENT

New York School Inquiry

The New York school inquiry has continued to attract attention during the month. Preliminary reports have been put into the hands of the New York newspapers, and widespread comment has been heard on the various recommendations of the Committee of Inquiry. Professor Hanus was good enough to supply the *Elementary School Teacher* with the following summary which constitutes the closing paragraphs of his general summary of the report:

It is clear that in spite of the progress the public-school system of New York City has made since the consolidation, it is seriously defective. It needs thorough reorganization in respect to its administration by the Board of Education and the supervisory staff; and in respect to its general system of supervision. The Board of Education needs a clear conception of its functions, and should come to close quarters with its work. The Board of Superintendents fulfils no useful function and should be abolished. In the general system of supervision, helpful co-operation under leadership should replace bureaucratic control. The Board of Examiners is decidedly efficient, but needs reorganization to improve and maintain its efficiency. The courses of study for elementary schools and for high schools need thoroughgoing revision, and flexibility should replace rigidity in their administration. The quality of the teaching in the elementary schools, at least, is in general not good, though sometimes good to excellent. The provisions for the discovery, segregation, and appropriate treatment of mentally defective children are quite inadequate, and need immediate attention. The compulsory attendance service is inefficient; it emphasizes police functions rather than preventive measures, and the staff greatly needs reorganization on a functional basis. The recognized advantages of intermediate schools in relieving congestion have not led to the further establishment of such schools, and no attempt has been made to realize the exceptional educational opportunities these schools

afford; promotions and non-promotions are not studied so as to yield a real basis for a maximum rate of promotion; part-time classes should be abolished; the estimated need of teachers for elementary schools and for high schools is not based on indisputable and well-organized data. The provision for industrial education is so meager as to be almost negligible; neither industrial nor commercial education is so maintained as to secure the necessary effective co-operation of industry and commerce, and co-operative and continuation schools are wholly absent. Habitual self-scrutiny and an appeal to well-conducted investigations and experiments to secure the necessary data to confirm or refute educational opinion and furnish the regulative for all the activities of the school system and for its adequate financial support are lacking.

National Education Association and the Million Dollar Fund

The executive officers of the National Education Association have authorized a campaign for the collection of a million dollars. This fund is to be used, according to the official announcement, for the purpose of promoting the activities of the Association. A statement is given of the resources and expenses of the organization, and it is evident from this statement that the society is in need of funds if it is to carry on anything beyond the most routine activities. The official announcement also suggests, although in a very nebulous way, that the fund is to promote scientific studies.

Comment on this announcement may be ungracious if it is not enthusiastic at the present very immature stage of the campaign. Everyone is so familiar with large endowments for educational undertakings that the effort to secure a million dollars seems less pretentious at the present time than ever before in the history of the country. Yet it is to be pointed out that people who are to be intrusted with this amount of money shall have a definite program of expenditure to present to the philanthropists who are called upon to contribute funds. One is led to inquire, therefore, what are the probable channels through which the National Association would be likely to direct the income from such funds. If the Committee on Rural Education is to be supported in its endeavor to bring the rural schools to the level of efficiency of city schools, there can be little doubt that enthusiastic support for that undertaking would be forthcoming. If the Committee on Economy of Time in the Public Schools could be assured that its work would be supported and carried on in such a way as to lead to definite economies in school practice, there would be justification in asking for public

support. In short, one might enumerate a long list of investigations that need to be made.

On the other hand one must admit that there is a danger that the income from a million dollars will be used in investigations which are not easily recognized as of great public importance. The National Education Association has unfortunately not kept its reputation perfectly clear during the last few years in the matter of a scramble for office. There have been certain domestic infelicities within the organization that lead one to fear that an increased income would create a temptation for new trouble rather than a cure for ancient wrongs. Would it not be well, now that the campaign has been announced, for some of the leading members of this organization to get together and plan definite lines of scientific research, contributing their time and energy to the cause until they have raised that cause to the level of obvious necessity? If educational workers are to convince people of this country that they are to be trusted with large endowments, they must continue for a time to make the sacrifices which are so familiar to every school worker. Committees must meet and time and energy must be spent in the voluntary effort to better schools. This voluntary energy must prove its capacity to bring about useful reforms in education. Useful reforms will then get proper support.

An Apprentice School

The *Handbook for the School for Apprentices* of the Lakeside Press of Chicago describes an experiment in industrial education which is worthy of general attention. The school was organized in July, 1908. It grew out of the need of a large printing establishment for properly qualified workmen. The school is in the printing plant itself, and is supplied with all of the appliances of an ordinary school. Boys are taken into this school at the level which is known as that of "pre-apprentices." At this stage they spend one and three-fourths hours daily doing academic work. This time is devoted to lessons in design, mathematics, English, elementary science, and history. The rest of the time is spent in shop work. The boys thus become acquainted with all the foundations of the art to which they are to devote themselves when they become qualified workmen. The pre-apprentice course is completed at the end of two years. The

boys are sixteen years of age at this time. They now enter the factory as regular apprentices and learn some one of the trades in the different branches of the printing business.

The contact which the boys have had with practical work in the pre-apprenticeship period helps them to find the phases of the work which are most congenial to them. At the same time, the foremen of the different departments have an opportunity to learn the characteristics of the different boys, so that a selection of work is made which is advantageous to the establishment as well as to the boys themselves. During the period of apprenticeship the boys have an opportunity to continue their studies. Indeed, they have learned one important lesson in the school in which they were prepared for their apprenticeship, namely, the lesson of combining practical industry with academic work. Such schools as this undoubtedly furnish encouragement to those who are disposed to regard the problem of industrial education as a problem of a type somewhat different from that which is faced in the ordinary school. On the other hand, it requires very little modification of the usual school program to take advantage of this example. Printing is so closely related to the regular school work that there is every justification for the introduction of printing into the regular school course. The design which can be taught in the printing class is more practical in character and quite as perfect in form as that which is taught in the regular drawing class. The students can be made to appreciate books through their contact with the methods of making books perhaps even better than through the study of books which are put into their hands in finished form. The advantages of academic training are emphasized by the use made of these subjects in the Lakeside School quite as much as are the advantages of practical courses.

The Conference for Education in Texas

The Conference for Education in Texas was organized in 1907 and is composed of citizens of the state who are sufficiently interested in its educational progress to give to the cause their service, their money, and their moral support. It has an executive board composed of prominent laymen as well as some of the leading educators of the state. A salaried secretary is employed and an office is maintained in the

capital of the state from which most of the work of the organization is done.

The Conference has led state-wide campaigns which have resulted in four constitutional amendments which are of immense value to the schools from both a financial and an administrative point of view. It also furnishes model plans for school buildings and has sent out more than 400,000 bulletins in behalf of rural high schools, school buildings, and educational progress.

The work of the Conference can best be summed up by saying that it serves as a great publicity bureau for the educational forces of the state, and is in line with the policies adopted by other great activities of the state.

So far it has been maintained by the voluntary contributions of the teachers of the state. In this way more than $30,000 has been raised. A movement is now under way to raise a permanent endowment fund from subscriptions of all those who are interested in the educational progress in the state.

Conservative men are free to say that the efforts of the Conference will advance education in Texas more in the next ten years than would otherwise be possible in twenty-five years.

C. T. GRAY

The following news item is quoted in full from the announcement of the Bureau of Education:

Facts about Teachers

Not more than one in every five public-school teachers in the United States is professionally trained to the extent of being a graduate of a teachers' training course, according to a bulletin on rural-school teachers just issued by the United States Bureau of Education. In fact, A. C. Monahan and R. H. Wright, the authors of the bulletin, point out that this ratio represents only the highest possible estimate; that the actual conditions are even less favorable.

It is in the rural schools that the problem of securing competent teachers has been most acute. The attention of educational leaders has in the past been occupied by the rapid growth of the urban systems and the rural schools have been neglected. The trained teachers, themselves often the product of the country, have been attracted to the cities and towns by higher salaries and better prospects. There was formerly little inclination to appraise rural teaching at its full value, either in pay or position, and the better teachers left the country schools as soon as they gained experience.

Raising the standard of rural teachers by dignifying rural-school work as a special field of high importance is already attracting better trained teachers to

the country. It is now generally demanded that the teacher for the country school have a special training for the work. "The rural teacher," says the bulletin, "needs the same courses in education and the same general methods of teaching as the town or city teacher. He needs, however, in place of some of the academic subjects of secondary or collegiate grade, additional courses in natural and physical sciences, particularly in their applications, and in nature-study, elementary agriculture, domestic economy, sanitation, rural economics, and rural sociology."

Three main agencies are attempting to meet the demand for trained rural teachers: the normal school, the county training school, and the high school. The bulletin describes the work of each of these agencies and selects typical examples from different sections of the country for more detailed description. State normal schools at Bellingham, Wash., Harrisonburg, Va., and Athens, Ga., are discussed as examples of normal schools that offer regular courses for rural-school teachers, based on the special needs of their respective localities.

In other state normals there are departments of rural education, as in those of Michigan; the Illinois State Normal School at Normal; the Kirksville Normal School at Kirksville, Mo.; and five Wisconsin normal schools. The rural education department of the Western State Normal School at Kalamazoo, Mich., is considered typical of this group. One-year courses for rural teachers are offered at Valley City, N.Dak., Lewiston, Idaho, and Greenville, N.C. Certain county normal schools are designed solely for the preparation of rural teachers, as in Wisconsin. So great has been the lack of trained teachers in rural education that the high schools have been pressed into service. Thirteen states have organized teacher-training courses in the public high schools or in close connection with them.

Clark Educational Museum

A publication has just come to hand from Clark University which contains the catalogue of the Department of School Hygiene of the Educational Museum of that University. New York and Chicago have enjoyed, within the past two years, an opportunity to see in a very complete form exhibits of all of the municipal activities undertaken for child-welfare. These exhibits are of such large educational value that they will undoubtedly be repeated in some form in the future. In the meantime, Clark University and several other institutions for the training of teachers have recognized the advantages of such exhibitions of material to the extent of beginning permanent collections of the type represented in this catalogue. The Clark Hygiene Museum contains exhibits of appliances for the prevention of diseases, for the proper nutrition of young children and school children; it contains drawings and suggestions for school buildings

and for school sanitation; and it deals with the problems of the playground and testing apparatus. It also gives material dealing with normal and abnormal physiological development. The catalogue now issued contains a list of firms from whom material can be obtained, in this way making it possible for other institutions to take advantage of the experience of this museum.

Compulsory Education

In the state of Tennessee the legislature is considering a bill which, if enacted into a law, will give that state compulsory education. The northern states have had compulsory education long enough so that the objections to such laws are no longer heard in these states. The discussion going on in Tennessee gives an opportunity to look back into the history of compulsory education in a very concrete and vivid way. The *Nashville Banner* discusses the matter in the following editorial:

A correspondent who is opposed to compulsory education in a communication published elsewhere on this page, says: "The education of my children is more my private business than it is the public business."

What is written here is not intended to be controversial or to make any argument pro or con on the subject of compulsory education. It is intended only to remark that the sentiment expressed by this correspondent—and it is a very common sentiment—shows in quite an interesting way the difference between the old idea and the new—the simple plan of a pioneer democracy and the progressive thought of a populous state.

The education of a man's children, according to the latter view, does not mean more to him than it does to the public. A man may be stupid, illiterate, or selfish, but advanced thought does not concede that he has the right, moral or otherwise, to afflict the state with future citizens of his own kind simply because he prefers that sort or is careless of his public duty.

A man's children are his charge, but not his slaves. They are also the children of the state, and it is the state's duty to see that they have every advantage it is able to give them.

A man can be compelled to bear arms and fight battles in defense of the country. He must also defend it against the backwardness and brutality that come of an ignorant citizenship.

If the state for the state's good proposes to educate the children of the state, people too ignorant and prejudiced to appreciate the value of education should not be allowed to thwart that design and impose ignorance upon the children.

The parent has no right to maim or imprison a child. He has no more right to cripple its intellect or to deprive it of the advantage of education.

This is the modern view and the view that prevails in most advanced

communities. It is not tyranny to the parent but justice to the child and to the state itself.

A parent would be punished under the law for starving a child's body, why should he be allowed to starve its mind?

This same correspondent says: "We, the common people of the rural districts, know better what we need than the people of wealth and leisure in the towns and cities do." We can give the correspondent perfect assurance that "the people of wealth and leisure" in the cities, or elsewhere, are not worrying about school problems. They are in the main a selfish lot who devote little attention to anything but their own pleasure and advantage and some of them object to being taxed for school purposes. Plans for educational advancement come from men and women who think and who are mostly toilers, as much so as those who delve in the fields. They are people who believe in the elevation of the masses, in equal advantage, and would as far as possible abolish the causes that lead to poverty and human degradation. The "people of wealth and leisure" don't worry with such things.

And, furthermore, what is done in this respect must be done by the people themselves through their representatives in the Legislature, and the rural population in Tennessee is still much greater than that of the towns and cities.

Public Teachers' Agency

The following news item reports a type of co-operation which teachers should interest themselves in promoting. Either State Departments or Teachers' Associations should do this work. The item is copied from the *Minneapolis Journal*.

The teachers of Minnesota, through the State Educational Association, are asking for the establishment of a state teachers' agency in connection with the office of the State Superintendent of Public Instruction. There is merit in the suggestion. The teachers' agencies are the present intermediaries between school boards needing teachers and teachers needing employment. It is an important work well discharged, but the whole burden of its expense falls on the teachers, who are already underpaid. The fee of 5 per cent of salary is collected from the teacher for whom a position is found. The revenues to the agencies are estimated at fifty thousand dollars a year or more. A state teachers' agency could, it is believed, be maintained in effective operation for thirty-five hundred dollars a year. It would be a fine and helpful thing and would save the poor teacher money he or she can ill afford to lose.

Another educational reform that commends itself to the judgment is that designed to make county superintendents appointive, non-political officials. This change is asked for by the State Association of County Superintendents, who realize better than anyone else what a handicap politics and partisanship are to their work. The measure suggested provides that the county superintendents, instead of being elected as now, be appointed by a county school board made up of representatives from each of the school districts. The bill

would put this important position somewhat on a par with that of superintendent of city schools. The effort to require candidates to have certain attainments along professional lines failed for constitutional reasons. The right to run for office could not be thus abridged! The measure now offered evades this difficulty and seeks to put this important office on a securely non-partisan and professional basis.

The following paragraph is clipped from the *Tribune* of Duluth, Minn.:

An Experiment in Pupil Government

Municipal government will hereafter play a prominent part in the day's work at the Longfellow School, Sixtieth Avenue West and Elinor Street. The administration of the conduct of the pupils will be in charge of the Young Citizens' Association. This association is modeled on the plan of the political parties, with the exception that there is no "opposition" to stir up trouble. At an election held the first of the week, a complete set of city officers was elected. They will take their oaths of office this morning and will assume their duties Monday. The plan of government is on the same order as under the old ward system. The association was formed for two purposes—to instil in the minds of the pupils a knowledge of and interest in the administration of municipal affairs and to bring more closely to home the responsibilities of self-government. The pupils will participate in the making of all laws governing their conduct and the officers will see that these laws are observed. The workings of the various departments will be explained and it is probable that, later on, various city officials will be requested to speak on some of the mooted questions.

A ruling given by the Indiana attorney-general is reported in the *Indianapolis News* as follows:

What Is the Limit of the Legal School Age?

Attorney-General Honan today gave an opinion to Charles A. Greathouse, state superintendent of public instruction, in which he held that the usual decision of school officials and parents with regard to the legality of taking children out of school as soon as they are fourteen years old, is not correct. Mr. Honan's opinion, which was requested by the state superintendent to clear up numerous questions on the subject, is that under the truancy laws the child must attend school "between the ages of seven and fourteen years inclusive." The statute means that the child must attend school until the close of his fourteenth year, the attorney-general held. The usual interpretation of the law throughout Indiana has been that of allowing the child to leave school—if such action was desired—at the beginning of the fourteenth year, thus evading the law by an entire year, according to the state official.

John J. Walsh, state factory inspector, under whose jurisdiction the

enforcement of the child-labor laws in Indiana falls, said today that he had been enforcing the child-labor laws only up to the time the child entered his fourteenth year. He said, however, that he would examine the truancy law at once and confer with the attorney-general as to whether the latter's opinion would affect the administration of the child-labor law. The child-labor law uses the phrase "no child under fourteen years" in handling the age limit proposition.

The ruling seems to be of very doubtful validity. The question which it raises is, however, one of large general importance.

School officers everywhere will recognize the wisdom of the state superintendent of Colorado as exhibited in the recommendation reported in the following news item copied from the *Denver Post:*

Longer Terms for School Officers

In the biennial report just issued by Mrs. Helen M. Wixson, state superintendent of public instruction, a number of recommendations have been made to the legislature.

The most important is the recommendation that the terms of the superintendent of public instruction and county superintendents be increased from two to four years and that the offices be taken out of politics by holding a special election, the names of candidates to go on by petition and there being no indication of the politics of the candidate.

It is urged by Mrs. Wixson that it is impossible to get plans well under way and obtain results in less than four years.

"Our schools are among the best, but there is always room for improvement and nothing would give greater impetus to growth than a change in the constitution providing for a four-year term in the office of state and also of county superintendent and the removal of these offices from the turmoil of politics," says the report.

Other legislation recommended is provision for a state school visitor who shall relieve the state school superintendent of public instruction of the necessity of traveling over the state constantly, to keep watch over the schools; the formulation of a law for medical examination of school children by specialists and trained nurses; publication and use of the state course of study.

The Bureau of Education has issued a statement with regard to the place of women in the public schools. The facts reported in this news item are as follows:

Women in Administration of Public Schools

How women have advanced from the educational ranks to the highest administrative positions in the public schools is interestingly revealed in figures just compiled by the United States Bureau of Education. Four states—Colorado, Idaho, Washington, and Wyoming—have women at the head of their state school

systems, and there are now 495 women county superintendents in the United States, nearly double the number of ten years ago.

In some states women appear to have almost a monopoly of the higher positions in the public-school system. Wyoming has a woman state superintendent; the deputy state superintendent is a woman; and of the fourteen counties in the state, all but one are directed educationally by women. In Montana, where there are thirty counties, only one man is reported as holding the position of county superintendent.

The increase in the number of women county superintendents is most conspicuous in the West, but is not confined to that section. New York reports 42 women "district superintendents," as against 12 "school commissioners" in 1900. Other states showing marked increases are—Iowa, from 13 in 1900 to 44 in 1912; Kansas, from 26 in 1900 to 49 in 1912; Nebraska, from 10 to 42 in the same period; North Dakota from 10 to 24; Oklahoma, 7 to 14. In only two states is a decrease reported—Tennessee had 9 in 1900 and only 5 in 1912, and Utah has one less than a decade ago.

Together with the advancement of women in the administrative branch of education has come a demand for women on local school boards, and this demand has been recognized in many communities. The following cities of 100,000 population or over report one or more women on the school board: New York, Chicago, Cleveland, San Francisco, Milwaukee, Washington, Indianapolis, Rochester, St. Paul, Denver, Columbus, Worcester, Grand Rapids, Cambridge, and Fall River. Numerous smaller municipalities have adopted the idea.

The important place assigned to women in American education has become so usual as to excite little comment in this country; yet American conditions in this respect are the reverse of those of most nations. It is probably safe to say that in no other country in the world are there as many women teachers proportionally as in the United States; in fact men teachers greatly outnumber the women in most European countries.

In many of the cases described above the explanation of the fact that women have been advanced to high administrative positions is to be found in the fact that in the states where the women have been enfranchised the one political office which it is easy to turn over to them is the office of school superintendent in either state or county. The fact that the women have filled the ranks of teachers in the school is so familiar that it is not a subject for frequent comment, but this new fact that school administration is coming into the hands of women in many states is a unique development worthy of comment.

THE REPORT OF THE NEW YORK SCHOOL INQUIRY

THE SYSTEM OF GENERAL SUPERVISION AND THE BOARD OF EXAMINERS

EDWARD C. ELLIOTT

On January 27, 1912, the Committee on School Inquiry of the Board of Estimate and Apportionment of New York City made public the special report dealing with the system of general supervision and the work of the Board of Examiners. This report dealt with the school system as to its organization and operation "higher up," and contained recommendations of far-reaching importance. In view of the widespread interest in the work of the Inquiry, the presentation of the following general survey of the contents of the report, together with the specific recommendations resulting therefrom, may be considered timely.

This special report is a document of 144 printed pages, and is prefaced by an analytical summary prepared by Professor Hanus, who was in general charge of the educational aspects of the School Inquiry. The nine separate sections of the report will be treated in order.

The first section deals with the general scope of the report, the methods pursued in the Inquiry, and a discussion of the fundamental nature of school control, in which the distinctive characteristics and differences of the legislative, administrative, supervisory, and inspectorial forms of control are indicated. The conclusion of this section is significant:

> All of the evidence considered during the conduct of this portion of the Inquiry has revealed and emphasized this important fact, namely, that there seems to be nowhere, at least within the school system, a clear and conscious discrimination between those activities of control that are administrative in character, and those that are supervisory or inspectorial. The absence of this distinction in the minds of those charged with the main responsibility has been, it is believed, an important factor in retarding the progress and complicating the development of the public-school system (p. 9).

The second section gives a brief historical statement of the development of the existing plan of school organization and control

since the passage of the Greater New York charter in 1897. On the basis of the study made of the relationship and interdependence of the several boards, officers, and other instrumentalities that constitute the existing scheme of school control, and after a study of the general principles under which this control is operative, the conclusion was reached that—

The schools have been maintained under a form of control that is distinctly administrative and mechanical; a form of control that has not kept a single eye on the real substance and worth of teaching and education. The schools have not been kept, however, under the influence of that effective supervision and inspection which gives unity, purpose, and high standard of attainment to the work of teachers. *There is a striking lack of consciousness within the school system of the radical difference between merely keeping the schools in operation, and keeping the schools in operation so as to produce tangible results of high quality. The organization of the school has been from the top down, rather than from the bottom up; a procedure as obstructive to progress and real growth in education as it is in other human institutions* (p. 17).

The third section deals with the school as the unit for supervision, with special reference to the situation existing in the elementary schools. A general summary of the principal findings of this portion of the report is as follows:

a) The number of supervisors (principals, etc.) provided for elementary schools is entirely adequate for effective supervision.

b) The salary schedules are such as to attract men and women of competence.

c) The tendency is to appoint men and women whose education, training, and experience have been too exclusively within the city.

d) The position of the principal is primarily administrative, rather than supervisory.

e) The system of rating the efficiency of principals is not such as to distinguish the competent from the incompetent (pp. 32–33).

The fourth section considers the organization, status, and functions of the staff of district superintendents.

The major results of this consideration are:

a) While the general theory of the plan of the district superintendent in the supervisory organization is a sound one, this theory is not, as to its essential elements, carried out in practice.

b) The supervisory districts are too large to permit the district superintendents properly to fulfil their responsibilities as supervisors. Many of these should be transferred to the principals of schools.

c) The existing method of selecting district superintendents too narrowly confines choice to those whose education, training, and experience have been entirely within the city.

d) The absence of a definite and high standard of qualification for selection and retention of district superintendents has limited the supervisory usefulness of these officers.

e) The relation between the Board of Superintendents and the district superintendents is such as to restrict unnecessarily the freedom, initiative, and responsibility of the latter with respect to matters of fundamental educational importance. Provision should be made for the larger participation of the district superintendents in the making of educational policies (pp. 41–42).

As to the supervision of the special branches, including kindergartens, as presented in the fifth section the report concludes:

a) Under existing conditions the number of directors and assistant directors, excepting for the kindergarten, is sufficient to secure proper supervision of the special subjects. The relation of the director to the principal and the district superintendent is in need of clearer definition, and his responsibility for the scope and method of his subject should be recognized.

b) Special teachers in certain of the special subjects should be made unnecessary by requiring competency on the part of regular teachers.

c) More adequate provisions should be made for the supervision of the kindergarten by the appointment of additional assistant directors, and by making elementary school principals responsible for the supervision of the kindergartens to the same degree as they are for the other classes (p. 48).

Obviously, the most important section of the report deals with the office of the city superintendent, the organization and functions of the Board of Superintendents, and the activities of the associate superintendents. The following paragraphs are significant of the results of the inquiry upon these points:

The limitations of this inquiry make it impossible to do more than to express a series of general judgments and recommendations regarding the office of the city superintendent as at present constituted. Concerning one important feature of the particular issue, the members of the staff engaged on the educational aspects of the School Inquiry are unanimously agreed—that the centralization of large administrative and supervisory authority in the city superintendent, as provided for by the revised charter, was absolutely necessary for the creation of a scheme of responsible school direction free from those prejudices and partisanships that have so often disorganized the institutions and public service of the city. That the schools of Greater New York have, during the past decade, been consolidated into a coherent whole is due, without question, to the perseverance, foresight, and wisdom of the present city superintendent. His unyielding loyalty to certain of the fundamental principles of

school control has brought the policy of centralization to a successful end. No serious study of the facts and circumstances of the development of the school system could lead to any other conclusion.

The city superintendent has achieved distinguished success in protecting the school system and the teaching staff from the selfish influences that are always found in the public service of a great city—and this is conspicuous success. Through his long term of office, he has naturally aroused strong personal and organized opposition to his policies; but no competent and principled man could do otherwise.

No other educational leader of this generation has had a task of such magnitude and complexity. It is very improbable that any other man could have succeeded as he has in unifying the school system and harmonizing the educational forces of the city. Through his service and performances, the office of city superintendent of schools in this country has been greatly magnified. He has made the New York public-school system one of nation-wide significance.

Mechanical consolidation, with the resulting standardization of aims and values, has been effected. The next epoch of educational control will need to be dominated by the idea of establishing a scheme of *decentralized, co-operative, expert* supervision. Military standards of authority and organization cannot be permanently adapted to the enterprise of education. Education, particularly public education, is a great *co-operative* undertaking, and, therefore, must make provision for the initiative, independence, and creative activity of every individual charged with responsibility. The administrative efficiency of a great, complex school system demands a high degree of centralization of administrative power. On the other hand, the supervisory efficiency of the school system is conditioned by a degree of co-operation which has not yet been fully comprehended by the city superintendent. Machinery *stifles individuality; co-operative effort expands individuality.* The teaching of children and the direction of their education are dependent, ultimately, upon freedom, not repression.

The pre-eminent difficulty of the existing situation arises, as has already been pointed out, from the failure clearly to distinguish between effective administrative control and effective supervisory control. In so far as the city superintendent is an administrative officer, his powers should be broad and direct. As a supervisory officer, he should be the executive agent of the supervisory and teaching staff. In several respects his administrative authority should be enlarged. This is especially true with regard to many of the activities now under the control of the Board of Superintendents. The scope and method of his supervisory functions need to be submitted to thorough study and investigation, far more thorough than is possible during the present inquiry. Consequently, it has been recommended that the Bureau of Investigation and Appraisal, as proposed in this report, undertake to define the legitimate functions of the city superintendent as a supervisory officer, with the end of securing

to the schools the benefits of the great amount of productive power which, under the present organization, must be latent. The proposed plan of reorganization of the supervisory staff and the creation of the Supervisory Council is merely suggestive of the idea of efficient, co-operative organization (p. 52).

The variety of evidence considered justifies the positions taken in the report that the attitude of the city superintendent and the associate superintendents, acting either in an individual official capacity, or collectively, as the Board of Superintendents, toward the members of the teaching and supervisory staff has discouraged competent criticism of the methods and effectiveness of the school system, and has prevented the development of a necessary spirit of co-operation within the school organization; that the present machinery of control represented by the city superintendent, the Board of Superintendents, and the associate superintendents is too complicated for effective administration, and too bureaucratic for effective supervision; that a larger concentration of authority over matters of routine and administrative character in the city superintendent, and a reorganization of the supervisory control so as to provide for a wider, responsible participation of the members of the teaching and supervisory staff in the making and oversight of educational policies, are necessary.

From one point of view the body controlling the qualifications of those appointed to the teaching and supervisory staff in a metropolitan city is the key to the effectiveness of the educational work accomplished. During the seven years, 1905–12, the Board of Examiners for the city examined over 90,000 persons for certificates. This Board licensed over 60,000 candidates. The most important conclusions concerning the Board of Examiners are:

a) The Board of Examiners, by its methods and standards, determines the character of the demands made upon the supervisory staff.

b) The Board of Examiners has a tremendous annual task in conducting the wide variation of examinations of many thousands of candidates for teachers' licenses.

c) The method and standards of the Board of Examiners have been such as to select the more fit of those presenting themselves for examination.

d) The Board of Examiners has sought constantly to adapt itself in a progressive way to the changing needs of the school system.

e) The constitution of the Board of Examiners so as to include the city superintendent is to be desired.

f) The enlargement of the Board of Examiners would contribute to its effectiveness (p. 75).

The eighth section of the report considers critically the methods and standards employed for determining teaching efficiency. The general conclusions are as follows:

a) The determination of the fitness or unfitness of teachers for continuance and promotion in the school system represents the chief task of the supervisory staff and the best test of its service to the schools.

b) The certainty with which the initial probationary license is renewed to permanency may be largely accounted for by formality that characterizes the inspections and reports upon service.

c) The approval of service as "fit and meritorious" does not depend upon thorough and impersonal inspections necessary for obtaining any true measure of a teacher's efficiency.

d) The means and methods for the regular annual and semiannual ratings of teachers and principals are not such as to produce results commensurate with the labor involved or calculated to raise the level of teaching performance within the schools.

e) The principle of "superior merit," for teachers in high schools, introduced by the salary legislation of 1911 is a valid one, capable of serviceable extension to the teachers in elementary schools (p. 84).

The ninth and last section of the report contains the four important recommendations for the reorganization of the supervisory staff:

(1) That appropriate steps be taken to secure the necessary legislation for the abolishment of the Board of Superintendents and the position of associate city superintendent; and that a careful, detailed study be made of the powers and duties now belonging to the city superintendent, to the Board of Superintendents, and to the associate city superintendents, to the end of securing a more efficient and economical distribution of the necessary administrative and supervisory powers and duties among the city superintendent, the proposed Supervisory Council, the district superintendents, and the principals of schools.

(2) That appropriate steps be taken to secure the creation of a Supervisory Council to be composed of the city superintendent, all of the district superintendents, and a selected number of directors, principals of training schools, principals of high schools, principals of elementary schools, and representatives from the teaching staff in the various types and grades of schools.

(3) That there be established, as an integral part of the system of school control, a Bureau of Division of Investigation and Appraisal.

(4) That the Board of Examiners be reorganized so as to provide for nine members, including the city superintendent of schools, *ex officio;* the service of the eight appointed members to be arranged so as to permit each member to devote every fourth year to supervisory, or other special duty in the school system (pp. 85–90).

THE RELIABILITY OF SINGLE MEASUREMENTS WITH STANDARD TESTS

S. A. COURTIS
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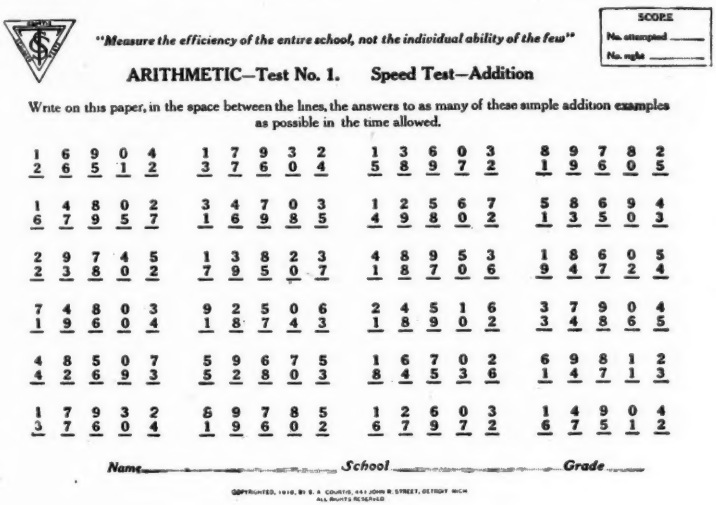
A recent article in this Journal gave the results and conclusions of a study of the reliability of single measurements in the derivation of standard scores in adding. The tests used (Test No. 1 of the Courtis series, see Fig. 1, below) measured the ability to write the answers to the fundamental combinations in addition.

For the purpose and the results of the study the writer has only the highest praise; the article as a whole is a valuable, a suggestive, and a much-needed contribution to the work of standardization. With certain features of the method of the study, however, and with the conclusions drawn from the data, the writer wishes to take issue. In the present article he will attempt to make clear his reasons for believing the method faulty, and, with the aid of additional data from certain investigations of his own, will try to so interpret the results obtained by the authors as to reverse their conclusions.

A brief summary of the method, results, and conclusions of the article are presented herewith as a basis for the present discussion. For a really adequate explanation of essential details reference must, of course, be made to the original paper.

Two hundred and seventy eighth-grade children in the eight larger grammar schools of San Jose, Cal., were given a practice series of twenty-five tests, five on each of five days. The tests used each day consisted of one like that shown in Fig. 1 and four slightly altered arrangements of it. These were given under carefully controlled conditions to all. The paper of any individual who made more than two errors in any one minute was rejected (68 cases, or 25 per cent of total number), leaving a selected group of 202 papers, chosen as representing a reasonable degree of accuracy as the basis for the discussion of the article.

In the first test the scores varied from 28 to 88 combinations, a range of 60 combinations, the middle half falling between 42 and 60. The median of the first scores was 51 combinations. The medians of the twenty-five scores in the 202 cases varied from 42 to 107 combinations, a range of 65 combinations, the middle half falling between 62 and 80. The median of the group was 70 combinations. From this data it is evident that the first score of the



"Measure the efficiency of the entire school, not the individual ability of the few"

SCORE
No. attempted _____
No. right _____

ARITHMETIC—Test No. 1. Speed Test—Addition

Write on this paper, in the space between the lines, the answers to as many of these simple addition examples as possible in the time allowed.

1 6 9 0 4 / 2 6 5 1 2	1 7 9 3 2 / 3 7 6 0 4	1 3 6 0 3 / 5 8 9 7 2	8 9 7 8 2 / 1 9 6 0 5
1 4 8 0 2 / 6 7 9 5 7	3 4 7 0 3 / 1 6 9 8 5	1 2 5 6 7 / 4 9 8 0 2	5 8 6 9 4 / 1 3 5 0 3
2 9 7 4 5 / 2 3 8 0 2	1 3 8 2 3 / 7 9 5 0 7	4 8 9 5 3 / 1 8 7 0 6	1 8 6 0 5 / 9 4 7 2 4
7 4 8 0 3 / 1 9 6 0 4	9 2 5 0 6 / 1 8 7 4 3	2 4 5 1 6 / 1 8 9 0 2	3 7 9 0 4 / 3 4 8 6 5
4 8 5 0 7 / 4 2 6 9 3	5 9 6 7 5 / 5 2 8 0 3	1 6 7 0 2 / 8 4 5 3 6	6 9 8 1 2 / 1 4 7 1 3
1 7 9 3 2 / 3 7 6 0 4	6 9 7 8 5 / 1 9 6 0 2	1 2 6 0 3 / 6 7 9 7 2	1 4 9 0 4 / 6 7 5 1 2

Name _____ School _____ Grade _____

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FIG. 1

group as a whole is fifty-one seventieths of the median score. On the basis of this relation it became possible to compute for each individual a hypothetical first score from his median score and this was done. That is, on the assumption that the middle measure of all the first scores of 202 children represents the same relative position on the scale of status as the middle measure of all medians, the hypothetical first score for each individual represents the real measure of his initial ability. For it is a measure derived from twenty-five scores with the practice effect eliminated. The difference between the actual and hypothetical first scores was then found for each individual with the following results:

Out of 182 cases where all twenty-five tests were taken the first scores deviated from the hypothetical values by between zero and one combination in twenty-six cases, by between one and two combinations in eighteen cases, in order as follows:

Combinations	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Cases	26	18	25	23	17	11	9	8	12	8	7	4	4	3	0	3	
Combinations	17	18	19	20	21	22	23	24	25	26							
Cases	1	1	0	0	0	0	0	1	0	1							

The individual scores showed a large practice effect, the average difference between the first and last scores being 28 combinations. There were marked individual differences both in the total amount of the practice effect, in the variation in successive scores, and in the form of the practice curves.

The conclusions drawn from this study were:

1. That one performance is altogether too uncertain as a test of an individual for purposes of grading or of diagnosis.

2. That twenty-five trials would be necessary to safely measure the ability of an eighth-grade child to write the addition combinations.

3. That from a certain point of view the usefulness of the test may be questioned owing to the uncertainty as to what it measures.

4. That the practice effect was probably to be explained not in terms of increased readiness of mental association but from an increased facilitation of neuro-muscular sort in the manipulation of the writing instrument.

Taking up the discussion of these conclusions in the reverse order, the writer can express at once his basic criticism of the whole study by saying that the addition test shown was put to a use for which it was not intended. It is not surprising, therefore, that undesirable results were obtained and the suspicions of the authors aroused as to the usefulness of the test itself. The writer will accordingly attempt to make clear the real purpose of the test, and will try to prove that, while rightly used the test does measure a valuable ability, the ability generated by its repeated use is specific and may be largely valueless.

The evolution of the series of tests, of which the one under discussion is a member, has been described in previous articles in this

Journal and the description need not be repeated here.[1] It is sufficient to say that they are the end-products of a long series of experiments, in the course of which most of the questions and criticisms that are likely to occur to a person considering the use of standard tests for the first time, were raised and answered.

The purpose of the series as a whole was to enable the writer to study and bring under control the fundamental abilities in abstract work with whole numbers—the abilities represented by Test 7 of the series, of which column addition is a part. In the analysis of the mistakes of Test 7, however, the necessity for diagnostic tests of the simpler component abilities was soon perceived and tests Nos. 1 to 5 were constructed.

For as the authors of the study show clearly, since the ability to add a column of figures involves the control of four or five elemental abilities, tests that disclose weakness in one or more of the components enable a teacher to concentrate his efforts on the exact cause of failure, and so to increase the efficiency of his teaching. What it was proposed to do then was to cross-section the minds of the children and to try to control the complex ability through control of the component elements.

All measurements of mental facts, however, appear to differ from measurements of physical facts in this particular, that the conditions under which the measurements are made can never be reproduced again exactly. In the physical world the length of a brass rod is unchanged by the mere measurement of its length, although in the last analysis this is pure assumption, as the time element changes from one measurement to another and the time conditions cannot be reproduced at will. At least it is possible to say that the length is apparently unaffected by measurement. In dealing with the mental facts, however, we do not even assume that we can reproduce the conditions, as the mind itself is so very

[1] The subject-matter of each test is as follows:

Test No. 1. Addition
2. Subtraction
3. Multiplication
4. Division
(Combinations, 0–9)
5. Copying figures (rate of motor activity)
6. Speed Reasoning (judgment of operation to be used in simple one-step problems)
7. Fundamentals (abstract examples in the four operations)
8. Reasoning (two-step problems)

evidently affected by the measurement. To write the answers to the addition combinations in Test 1 is to increase by one the number of times we have responded to these visual stimuli, and the law of habit formation leads us to suppose that the character of our response to that stimulation in the future will in some degree be affected by the increase.

A careful examination of the situation, however, shows that measurement of mental facts is more complex than measurement of physical facts for another reason, measurement must be made indirectly. We compare length with length, but we cannot so measure readiness of response. Instead we resort to indirect measurement. In column addition readiness of response to a stimulation partly visual, partly mental is a factor determining ability.

But in the attempt to measure that factor by Test 1 we supply a stimulus that is wholly visual and we really measure the resulting motor achievement. At least four types of factors play a part in determining that achievement; the purely physical, as contrast between printing and paper, lighting conditions, hardness of pencil, etc.; the purely physiological, as state of health, fatigue, bodily structure, etc.; the purely psychological, as emotional state, degree of conscious control, etc.; and the factors directly involved in the control of the sensori-motor machinery. In repeated testing there is great danger, therefore, that any change observed may be due to the influence of factors *other than those it is desired to measure,* and the term "reliability" as applied to mental measurements needs definition.

In physical measurements, where the quality of thing measured is apparently not affected by the measurement, and all causes of variation in the result are external, the median of twenty-five measurements is more reliable than a single measurement, as the chance errors produced by the external causes are now positive, now negative, and tend more and more to destroy each other as the number of measurements is increased. In mental measurements, however, the fact that the thing to be measured may be changed by the measurement and the fact that, even if it is not changed, the actual achievements by which it is measured may vary because of

changes in other factors, alters the situation completely. A reliable measure of a quality is one that accurately reflects the degree of that quality in the person at the time the measurement is made. If a practice series produces changes in the factors determining achievement, then twenty-five measurements or any derived value based upon them may be more unreliable than a single measurement. The real question of reliability as applied to a measurement of readiness of association in the case of the addition combinations resolves itself into two questions: Is readiness of association a sufficiently definite and stable quality to permit of its being measured at all? If so, is it the determining factor in the achievement by which it is measured?

It must be evident that as readiness of association cannot be isolated and measured directly, no final answer to either of these questions can be made. Yet where the same inference can be drawn from several different types of data, its truth becomes reasonably certain.

The experiences of the writer that many children and adults show great constancy of performance in various situations led him to assume at the outset of the testing work that knowledge of the tables was a definite and stable quantity capable of exact measurement and only recently has he had occasion to question that opinion. The authors of the study under discussion evidently were of the same opinion and their reluctance to credit the practice effect to increased readiness of association would seem to show that they did not entirely abandon it. A priori, it would seem that an ability slowly built up through six or seven years of constant repetition—thousands of repetitions for each combination—and permanent enough to endure through life in spite of periods of disuse years long, must be both definite enough to permit of exact measurement and stable enough to be practically unaffected by the measurement.

However, a-priori reasoning is unsatisfactory when more direct evidence can be obtained and in this case such evidence is not wanting.

In the results from measurements of groups, the individual variations caused by minor factors tend to destroy each other, leaving in high relief only those effects common to all members of

the group. It is possible, therefore, to correlate ability to work abstract examples of Test 7 (the four operations) with the total of the scores in the first four speed tests (the addition, subtraction, multiplication, and division combinations) on the basis of returns from many large groups of children.

TABLE I

Relation between ability to work in the four operations, simple examples with whole numbers (Test 7), and knowledge of the tables (total of scores in Tests 1 to 4). Average scores of various grades of children from third through twelfth, in Boston, New York, Detroit, and of the tabulations to determine standard scores, 55,200 children in all. Scores for Test 7 are the number of examples attempted and the number right in twelve minutes. For totals, the sum of the number of answers per minute in each of the four speed tests (the addition, subtraction, multiplication, and division combinations).

No. of Children in Group	Average Scores of Group in			No. of Children in Group	Average Scores of Group in		
	Attempts Test 7	Rights Test 7	Totals 1 to 4		Attempts Test 7	Rights Test 7	Totals 1 to 4
472....	5.4	1.7	87	244....	12.0	8.3	178
525....	5.4	1.7	72	410....	12.0	8.8	185
2,278....	5.6	1.4	86	5,670....	12.5	7.0	176
345....	6.2	2.4	95	2,129....	12.5	7.4	182
481....	6.4	2.7	102	264....	12.5	7.8	179
1,222....	6.6	3.6	102	405....	12.8	9.0	177
2,655....	6.9	2.8	109	209....	12.8	8.9	185
356....	7.5	3.9	117	1,370....	13.1	8.9	189
5,520....	7.8	4.0	137	328....	13.5	9.2	197
276....	7.8	4.8	137	412....	13.7	9.5	198
530....	8.0	5.9	136	4,771....	14.0	8.5	194
5,396....	8.8	4.2	128	216....	14.0	9.5	191
1,177....	9.0	5.3	130	151....	14.4	9.4	198
2,710....	9.2	4.7	135	368....	14.5	9.8	209
476....	9.5	6.1	153	169....	14.9	10.8	202
484....	9.9	7.6	165	179....	15.4	10.5	232
335....	10.0	6.3	149	4,502....	15.7	10.1	219
1,282....	10.3	6.9	152	440....	15.7	10.9	224
260....	10.8	7.3	151	120....	16.0	11.0	230
425....	10.8	6.5	161	257....	16.1	11.5	227
2,518....	10.9	6.5	163	464....	16.8	12.6	233
5,836....	10.9	5.8	157	131....	17.2	11.8	242
1,432....	11.5	7.6	167				
				55,200			

The writer has recently had opportunity to carry through, with a trained force of examiners and with mechanical timing, tests of school children in Detroit (2), New York, and Boston. The Boston test was made at the beginning of the year (October), the first Detroit test in January, the second in June, the New York test in April. He has also the returns from the investigation to

determine standard scores, representing between three hundred and four hundred classes in sixty to seventy schools in ten states. The average scores made by each group of children examined (eighth grade, seventh grade, sixth grade, etc.) in each of the two traits are given in Table I, arranged without respect to either city or grade, but solely on a basis of size of scores in Test 7. The number of children in each group is also given. All grades from third to twelfth are represented and a few scores are from normal-school students. Returns from rather more than 55,000 children in 45 divisions are represented in the table.

It is evident both from the table and from the graphic representation of the data (Fig. 2) that the correlation between speed work (ability to attempt examples) and knowledge of the tables is positive and high. (Pearson coefficient of correlation $=+0.98$.) That is, in general the ability to complete any number of examples in Test 7 in a given time (say eleven examples in the twelve minutes allowed for this test) occurs with a corresponding score in knowledge of the tables (in this case 160 combinations in four minutes) without respect to either grade, city, or time of year. For accuracy (number of examples right) the correlation is also positive but slightly lower. Given the score made in one of these tests by any large group of children, the score made in the other tests can be computed by the formula: $C=13.3A+13.3$ and $C=15.4R+55$ in which C is the total score in the combinations, A the score in number of examples attempted, and R the number of examples right. Weighing the various results in proportion to the number of children in the groups, the average deviation of the actual from the computed values are $C_A=3.2$, $C_R=9.1$. That is, in general, knowledge of the tables, or readiness of response, determines speed of work and to a lesser degree accuracy also.

In considering these results the reader should be careful not to infer too much. It is quite certain that each of the two traits is a definite measurable quantity, that they have a functional relation to each other in that for every value of one there is a corresponding value of the other, but the causal relation of the two is by no means proven. Or if this relation be granted, these results alone do not show which of the two is the cause and which the effect. It may

be that a child in whom has been built up a very great control over the fundamental number associations may *for that reason* be able

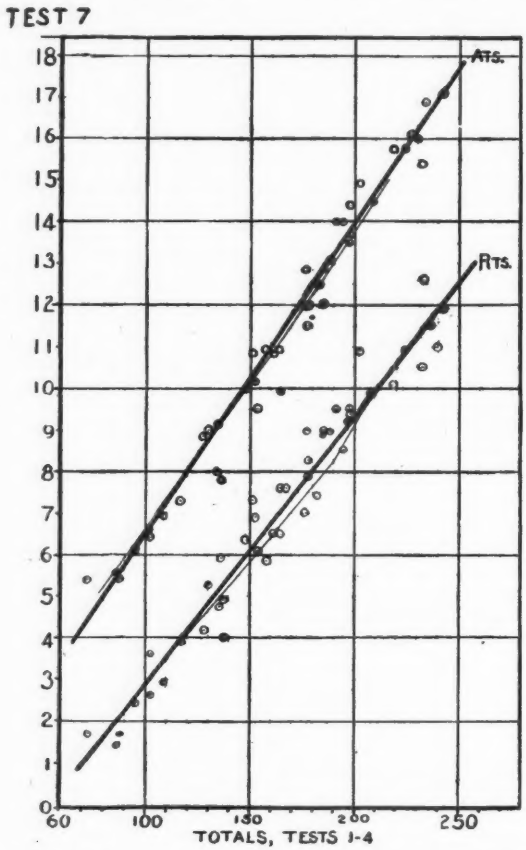

FIG. 2.—Relation between ability to work abstract examples in Test 7 and Knowledge of the Tables on basis of scores of 55,000 children in Detroit, Boston, New York, and in 60 to 70 schools in ten states. Ability to attempt examples is almost exactly proportional to degree of knowledge of tables. The relation is less exact in case of examples right. Light lines represent the scores previously selected as standard.

to attempt a large number of examples. But it may also be that it is the ability to work a large number of examples which enables

him to make a high score in the tables. It might even be that the two have no direct relation, both being but expression in different ways of the same basic facts—a retentive memory, a short reaction time, and a perfect muscular control. Whatever the explanation, of the facts themselves there is no question. One of the most striking results of the testing work has been the marvelous agreement, both in average score and in range of distribution, of results from schools in widely separated localities. Whether returns are received from a small public school in Virginia, a country school in Kansas, a private school in a northern state, or a large public school in New York City, a seventh-grade class will make about the same average scores in the various tests. Slightly higher scores in some tests, it is true, do occur but at a cost of lower scores in other tests. The product of teaching in arithmetic seems to be determined mainly by factors that must be common to all schools rather than by the artificial differences created by teachers, methods of work, and courses of study.

In this connection it is interesting to compare the scores selected as standards from the measurement of a few thousand children in many schools—mainly schools in smaller cities and towns—with the relations shown in the graph which were derived from six times as many children from a few school systems. The standard scores are represented by the light lines in the figure. It is evident that the standard scores are not far wrong even in "Rights," where the greatest differences occur.

TABLE II

Distribution of scores in the tables (Tests 1–4) made by a group of 928 children, each of whom had a score of 12 examples right in Test 7

Scores in tables.....	90	120	150	180	210	240	270	300	330	360
Number making score.	2	25	169	293	236	139	68	18	6	2

The reader should be careful, also, to remember that a relation may be true in general but not at all true of certain individuals, and that an average score hides the range of individual variation. In Table II, for instance, is given the distribution in one of these traits (total score of four speed tests) of a group of children having the

same score in the other trait (Test 7, rights). FIG. 3 shows the same facts graphically. Although these 958 children all had exactly twelve examples right in Test 7 and should by the relation in Fig. 2 have a score of 240 in the tables, their actual scores range from 90 to 360.

That is, the children at one end of the distribution have four times the equipment in knowledge of the tables of the children at the other end, yet were able to get no more examples right.

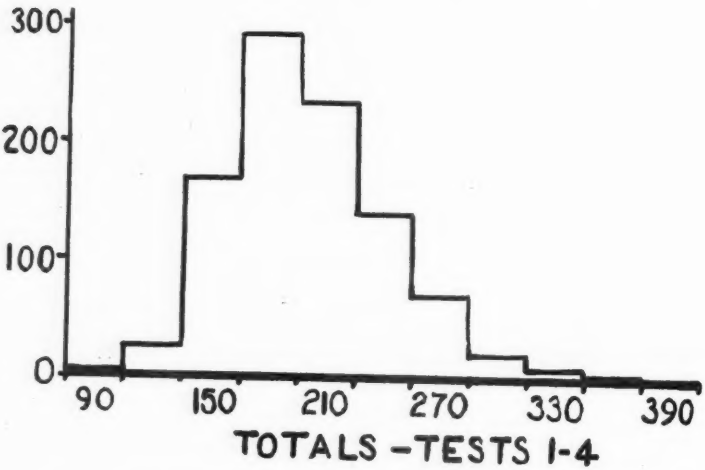

FIG. 3.—Distribution of scores in the tables (Tests 1–4) made by a group of 958 children, each of whom had a score of 12 examples right in Test 7. Average score = 201.

The mode is at 180 to 210, and in Table III is given the distribution in Test 7 of about 5,564 children, all of whom have a score of 180 to 210 in the tables. The range here is greater than before, some children failing in every example attempted, others having a perfect score of 19 examples right. Moreover the average falls, not at 12 as it should by the previous figure, but at 8.1, more nearly the point in accord with the computed value.

A similar range of variation has been found in all schools so far examined, and the necessity for, and the value of, a study of the

reliability of the first scores must be apparent at once. The interpretation to be placed upon such results depends almost wholly upon one's opinion as to the reliability of "first" scores. The writer feels, however, that on the basis of the evidence presented

TABLE III

Distribution of scores in Test 7, rights made by a group of 5,564 children, each of whom had a score of 180 to 210 in the tables

Scores in Test 7, rights...	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
Number making score....	189	137	222	252	366	422	495	534	598	559	499	418	293	264	141	90	49	29	6	1

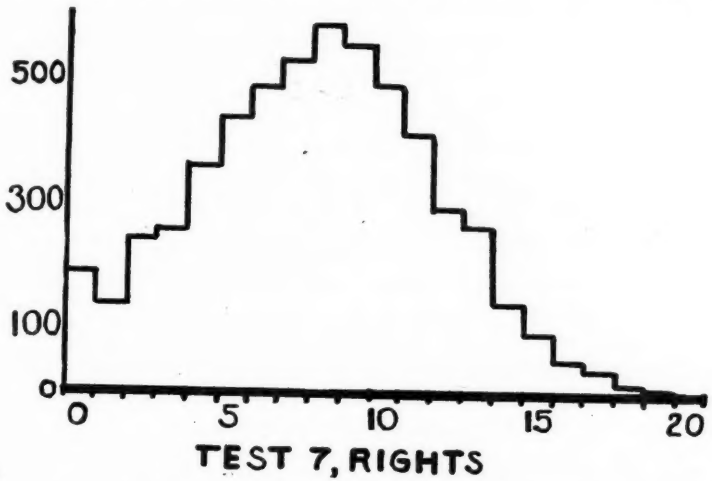

FIG. 4.—Distribution of scores in Test 7, rights made by a group of 5,564 children, each of whom had a score of 180 to 210 combinations. Average score, 8.1 examples.

above it is possible to answer in the affirmative the first of the two questions proposed. Readiness of association in the case of the fundamental combinations *is* a sufficiently definite and stable trait to admit of measurement. The second question may then be discussed.

If readiness of association is in itself a stable quantity, and further, if it is the determining factor in the achievement by which it is measured, then repeated tests of an individual ought to show only slight fluctuations above and below a certain constant value. If, on the other hand, it is not a determining factor, all sorts of variations are possible. Further, since measurement of the abilities of many school children show in general a constant relation between

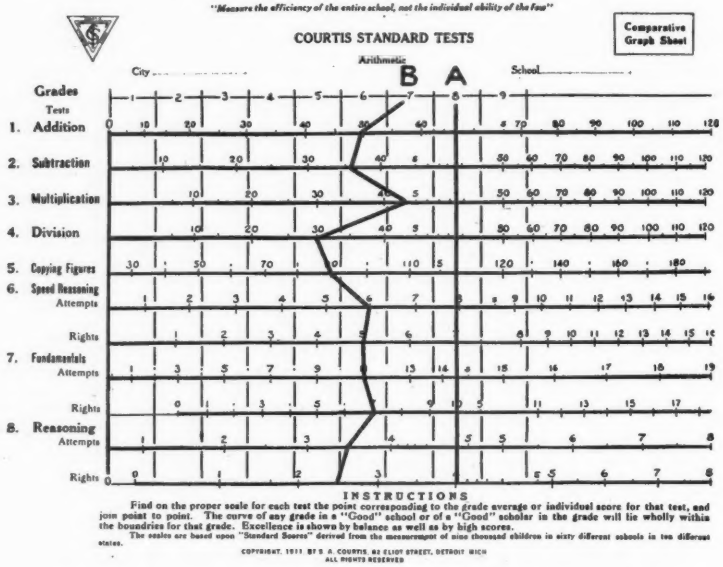
"Measure the efficiency of the entire school, not the individual ability of the few"
COURTIS STANDARD TESTS
Comparative Graph Sheet
Arithmetic
City
School
B
A
Grades
Tests
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Copying Figures
6. Speed Reasoning
Attempts
Rights
7. Fundamentals
Attempts
Rights
8. Reasoning
Attempts
Rights
INSTRUCTIONS
Find on the proper scale for each test the point corresponding to the grade average or individual score for that test, and join point to point. The curve of any grade in a "Good" school or of a "Good" scholar in the grade will lie wholly within the boundries for that grade. Excellence is shown by balance as well as by high scores.
The scales are based upon "Standard Scores" derived from the measurement of nine thousand children in sixty different schools in ten different states.
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FIG. 5.—Comparative Graph Sheet, a device for comparing individual scores, or class averages, with standard scores. *A* represents an ideal curve of a standard individual, *B* the actual curve of the most nearly standard individual found among 1,500 twelve-year-old children.

scores in Test 7 and knowledge of the tables, this and the foregoing can be used as criteria in judging particular cases. The results of the study being discussed show clearly that great changes in scores are produced by repeated measurement and the writer is disposed to agree with the authors in assigning the practice effect to changes in factors *other* than the one to be measured. The ability generated

by practice is the specific ability to write answers to the particular test and not increased readiness of association. For the latter would presumably function in Test 7, while the former does not.

To show this, a device adopted by the writer for making graphic use of the scores of either individuals or classes for diagnostic purposes must be explained. It is called a comparative graph sheet and is illustrated in Fig. 5. Along the horizontal lines representing the various tests scales are so drawn that the standard score for each grade falls directly below the grade. As a result the curve of a standard grade or individual is a straight line as shown at *A*.

Such balance of development is seldom found and *B* represents the most nearly perfect curve found, in the examination of the scores of about 1,500 twelve-year-old boys and girls.

In Fig. 6 is shown the specific character of the ability generated by repeated uses of the tests as drill exercises. Curves *A* and *B* are from two eighth-grade sections in a large city school. Section *A* worked directly upon Tests 1–4 throughout the year and large practice effect and high average scores in the tests of the elemental combinations resulted. It is to be noted, however, that in Test 7, in which these elemental abilities are put to use, the curves of the two sections agree.

That is, the higher scores in the elemental tests in the four operations that were made by Section *A* do not mean greater ability to work more abstract examples in a given time. Precisely similar results can be shown for other classes and for individuals where the tests have been *misused* in this same way.

It should be apparent, therefore, that the large practice effects obtained in the study under discussion probably have the significance that the authors attach to them; that is, the larger gains were caused by greater speed in "getting started," more rapid writing due, as the authors suggest, to degeneration of the form of the figures written, and to other changes of a similar nature, not to greater knowledge or control of the proper associations. In a "first" test there is a certain cautious watchfulness, a guarding against surprises. The child works as rapidly as he can but his attention is on the *arithmetical* phase of the work. At any subsequent test, however, he knows what to expect. He can take his

attention from the arithmetical work and bend all his energies to securing speed. In the writer's experience a second test shows quite uniformly a rise in scores of from 10 to 15 per cent. Repeating the test twenty-five times in five days would afford ample opportunity for such improvement, particularly if the children were by the proper phrasing of the instruction given a strong incentive.

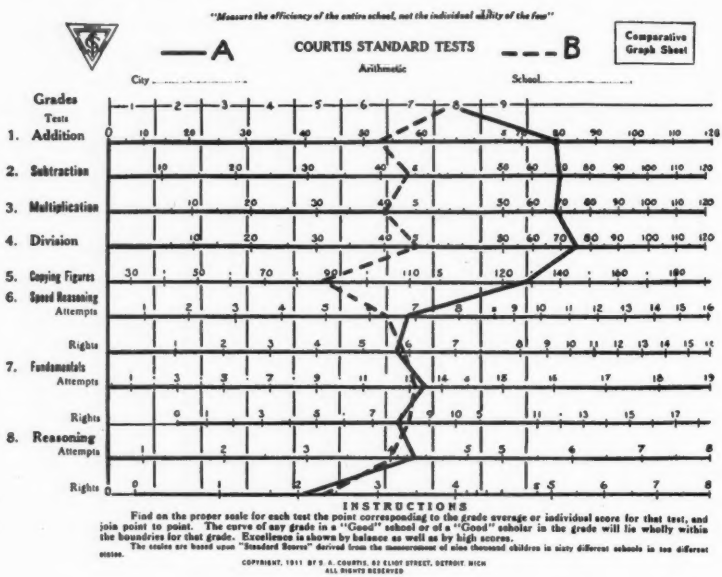
"Measures the efficiency of the entire school, not the individual ability of the few"
A
COURTIS STANDARD TESTS
Arithmetic
B
Comparative Graph Sheet
City
School
Grades
Tests
1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Copying Figures
6. Speed Reasoning
Attempts
Rights
7. Fundamentals
Attempts
Rights
8. Reasoning
Attempts
Rights
INSTRUCTIONS
Find on the proper scale for each test the point corresponding to the grade average or individual score for that test, and join point to point. The curve of any grade in a "Good" school or of a "Good" scholar in the grade will lie wholly within the boundries for that grade. Excellence is shown by balance as well as by high scores.
The scales are based upon "Standard Scores" derived from the measurement of nine thousand children in sixty different schools in ten different cities.
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FIG. 6.—Comparison of grade averages of two sections of an eighth-grade class in a large city school. Section *A* was drilled on Tests 1–4 through the year. Section *B* was not practiced. The fact that the scores agree in Test 7 shows that the ability generated by the repeated use of the tests was specific, and did not transfer.

To the writer, therefore, the study seems to yield more of a measure of the amount of change in the achievement that can be produced by practice than any data bearing upon the reliability of the first scores as measures of the readiness of association, and as such evidence as that presented above proves that the increase in skill does not transfer to practical work, he is still of the opinion that the first scores are more reliable as a base for detecting indi-

vidual defect than the twenty-fifth score or the median of the twenty-five scores.

It is particularly to be noted that in a general way the variation within the class was little changed by the practice. By the first scores the extreme range of the class was 60 combinations (88—28), the range of the middle half of the group being 18 combinations. The extreme range of the medians of the twenty-five scores was 65 combinations (107—42), roughly a 10 per cent increase, while the range of the middle half was still 18 combinations (80—62). It is to be noted also that the extreme range of the class was 60 combinations, and was more than twice the average practice effects of the twenty-five trials. To the writer, these facts all have the same explanation.

In the first scores and in all subsequent scores the determining factor in the differences between the achievements of different individuals is the readiness of associations. Under practice, however, the absolute scores change for causes and by amounts which vary from individual to individual. The greater the practice, the greater the differences produced by the practice effects. The first scores, therefore, in which the effects of other factors are at a minimum, measure more reliably than any other actual difference in the readiness of association.

In this connection it may be well to state for the benefit of all the writer's idea of the proper use of the tests. They are not a method of instruction. The first six of the eight tests cover abilities which should be developed through oral work and never through written practice as such. Neither are the tests examinations for promotion. The abilities covered are too simple and the conditions of the testing too artificial to be of value from this point of view. The tests are, however, comparative rulers for arithmetic, and if given not more than four times a year, reflect accurately the great complex changes produced by school work. The results are of value, therefore, to all who are making a critical study of school conditions, whether from the point of view of administration—the determination of efficient methods, the comparison of efficiency of teaching from school to school, or system to system, characteristics of the course of study, etc.—or from the point of view of the

teacher of the individual child. The fundamental idea of the system, however, is that of comparison on basis of a *sample* obtained under set conditions. First scores, as have been pointed out, are proved by this very study to represent more nearly the existing conditions than any other scores, and if the tests are given only at long intervals, all the complications due to the introduction of other factors are avoided.

Before leaving the discussion of the nature of the practice effect, it will be necessary to consider the effect of the rejection of the papers of the inaccurate workers. The authors express much surprise at their discovery that papers having high scores were in general free from mistakes. The writer made the same discovery some years ago and it is written in the folder of instructions to scorers (Folder C), in the manual, and in other discussions of the same sort. The statements, however, probably need revision, as in saying that "Courtis regards them [the errors] as negligible in these tests" (p. 96), the authors show they have failed to get the idea the writer intended to express. From the scoring of many hundreds of papers it has been determined that in general the errors in the addition test will average from 1 per cent to 3 per cent of the answers written, and in *general* that it would be better to expend in other ways the time and effort needed to detect this small number of errors

The purpose of the search for errors is to discover those who do not know their tables, but, since "scores containing many errors did not average as many combinations as scores without them, which seems to point to some third factor as being responsible for errors and smaller scores alike," it is possible to detect such children by their small scores and there is no need to search for mistakes. The authors call the factor determining both errors and small scores the "predisposition of *the moment*" [the italics are mine], but elsewhere the writer has arrayed the data that prove this factor is the basic factor in the learning process—the specialization of the mental abilities of the individual by the forces of heredity. Measurement of whole families, of twins, of the behavior of twins under practice, etc., proves that each individual responds selectively to school training on the basis of his natural aptitudes. One child can learn

addition readily but is unable to master subtraction, the next does well in subtraction but cannot learn addition. The authors speak of an "observed erratic character of their performance" in discussing the elimination of those making small scores. The writer, curious to see for himself the character of such performance, gave the next day after reading the article five successive tests to a girl with a very marked and stubborn weakness in division, a girl who after two years of special work still averages four errors per minute. Her scores in order were 46 (first), 42, 30, 34, 28 (fifth). The decline in the scores is due almost wholly to the fatigue caused by the great effort that *for her* is necessary to do such work. In the study, therefore, the elimination had the effect of selecting those who by nature were able to respond to the kind of practice they were to undergo and even this selected group responded in very different ways to the practice series, as is shown by the increase in the extreme range, previously noted, and by the differences in the sample practice curves shown. Had the results in the entire unselected group been used, these differences would have been more marked and the hopelessness of attempting to eliminate the individual practice effect on the basis of a general idealized practice curve more apparent. For any discussion of the individual, the results from that individual alone must be used—his behavior is an individual matter. For general laws of mental behavior, results from large groups eliminate all the idiosyncrasies of individuals. The writer, therefore, does not regard the "hypothetical first scores" as being in any way the true measures of the initial ability of individuals.

The data of the study, however, may be made to yield information as to the size of the chance errors in such mental measurements. In Fig. 7, the figure on p. 98 of the article is reproduced, but through each curve a line has been drawn to represent the growth in ability, the practice curve of the individual. The actual scores in the successive tests fall now above and now below the practice curves in the usual manner of measurements containing chance errors. That is, the writer interprets the curves to mean that any one score is determined by two major factors (assumed for the present to be "readiness of association" and "practice effect") and by a number

of minor factors. The "predisposition of the moment," in the sense of the combination or opposition of the minor factors, determines the variation of the score. By scaling the scores from the curves and finding the differences between the ideal and the actual

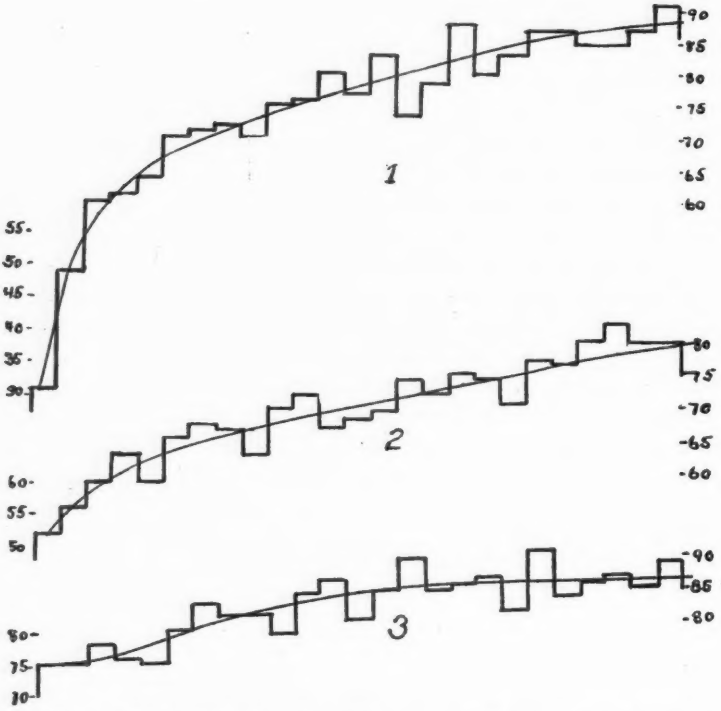

FIG. 7.—Three individual practice curves and graphs of the actual scores, showing variation caused by chance errors.

values, the writer secured an average deviation of 2.1 from the seventy-two differences. Even if the difference between each score and the next is used as a measure of the effect of the chance errors, the average variation would be increased to but 3.7. The distribution of these differences is as follows:

DISTRIBUTION OF DIFFERENCES SHOWING THE NUMBER OF CASES OF EACH SIZE

Size of deviations	0	1	2	3	4	5	6	7	8	9	10	11	18	Average Difference
Variation from curve.....	11	18	19	10	7	6	0	1	...	...	....	....	.....	2.1
Variation from preceding score.....	6	14	12	5	14	8	2	6	1	1	2	1	... 1	3.7

The writer is sorry not to have the full data from all the curves, including those of the children who made many errors. It is to be hoped the authors will supply the deficiency.

The significance of deviations of this order will be discussed below.

Turning now from the discussion of the results of the study, the writer will present data of his own bearing on the nature of the relation between scores in Test 1 and scores in column addition (conclusion three, above), other data showing the effect of chance errors, and will comment on the diagnostic interpretation of individual curves on the comparative graph sheet. Until such a complete discussion of the facts in the case has been presented, he will be unable to take up the first two conclusions drawn from the study.

OBSERVATIONS CONCERNING THE ORGANIZATION OF SCHOOLS AND CERTAIN PHASES OF EDUCATIONAL WORK IN GERMANY. IV

(*Concluded*)

GEORGE KOEPPEL
Principal Twenty-first Street School, Milwaukee, Wis.

TRADE SCHOOLS

The obligatory continuation schools have developed in some places into trade schools. It is freely admitted in Germany that the most perfect system of obligatory trade schools is found in the city of Munich. English admirers considered it so excellent that a bill has been presented in Parliament intended to establish such schools in England. The details of the Munich organization are stated in the bill giving full credit to its excellencies.

In Munich six large and a number of smaller trade school buildings are exclusively used for the theoretical and practical instruction of the apprentices of the various trades. These buildings contain shops that are fitted out with the most modern equipment in tools, apparatus, and machinery. The instructors are teachers, engineers, architects, artists, and master-mechanics.

The aim of the schools is *the formation of the habit of careful and exact work* and the systematic introduction to all the essential details of the work required in the respective trades. The school is to counteract the tendency of modern shops to turn the boys' work to profit by limiting them to a few manipulations in a small field of their trade, leaving them helpless and ignorant in regard to all the rest.

A nation that is in the race for industrial supremacy cannot hope to win unless its workers are trained to be exact, thorough, and intelligent. The trade schools are doing a grand work toward the accomplishment of this aim, while their influence as ethical and cultural centers on the army of adolescent youths is hardly less pronounced. The feature to be specially emphasized is the

compulsory attendance of all boys till they are at least seventeen years old, which places them under educative and protective influence during that period of life when they are in special need of guidance and advice.

The co-operation of employers with these schools is wonderful; individuals and corporations make voluntary contributions to funds, donate material, tools, models, and the most expensive machinery. All factors seem to combine to make the trade schools a growing success.

The courses extend over three, in some trades over four years, and are carefully graded. Attendance beyond the legal requirements is encouraged.

All trade schools have special classes for journeymen in which skilled workmen receive advanced theoretic and practical instruction. Many are fitted to take responsible positions and some develop into successful teachers of the schools which they have so long attended.

It is remarkable to what extent the study of science and art supplements the practical work done in the shop. Drawing and painting in all their branches, especially with reference to the artistic trades, is fundamental, as well as the study of style and of beautiful productions of former centuries. While famous historic models are carefully studied and imitated, originality of conception and design is also encouraged.

The workers are warned from the beginning, and learn to appreciate during the course, that modern mechanics and artisans require, besides practical and artistic skill, a scientific training, and that considerable knowledge of mathematics, physics, chemistry, mechanics, and statics is indispensable to the highest success. Especially in the schools for the building trades these subjects find extensive room in the programs.

At a fine exhibition of the furniture industry and of interior decoration, held last summer at Berlin, a very notable feature was the exhibit of the Berlin trade school for cabinet-makers, turners, and wood-carvers. It represented in a most striking and beautiful manner the great ability of the members of that school and the splendid work done under the influence of competent instruction,

and of the devoted study of some of the most famous furniture of former times. Several of the most artistic pieces had each a value of $450. The exhibit was not for sale, but remains with the school for instructional purposes. This school is exceptionally well supplied with historical models.

Course for masters of various trades are also conducted. I visited such a class in Zürich that was attended by more than twenty masters who had come from all parts of Switzerland to spend ten days perfecting themselves in the latest developments of lithography. The progress of the art was discussed in lectures and illustrated by practical demonstrations in the shops.

It is evident that such extensive, systematic, and successful provisions for training the workers, from the masters down to the youngest apprentices, must result in elevating considerably the efficiency and productive power of the nation.

The large and fine collections of the museums of the large and many of the smaller cities supplement very effectively the efforts of the schools. A most beautiful building, housing a school for the artistic trades in Dresden, is directly connected with a museum. The trade school in Zürich, Switzerland, an excellent institution, is adjacent to the National Museum containing most precious collections, among them many interiors taken from famous homes, convents, castles, and public buildings. The refining influence of these beautiful objects of the past cannot be overestimated.

Excellent classified collections of materials, photographs, engravings, books, and periodicals are at the service of the learners in the trade schools.

The school at Zürich has arranged regular exhibits of various trades that have proved very instructive, not only to the members of the school and to tradesmen, but also to the public, who are admitted free of charge. These exhibits are changing every three or four weeks. When I visited the school, the exhibition rooms had been transformed into a suite of many apartments furnished and decorated completely to illustrate beauty and comfort in homes of the middle class. This was to be followed by an exhibit of homes for laborers, and later by one of the most exquisite furnishings of houses for the wealthy. Artists, manufacturers, and

merchants furnish all that is needed and co-operate with the director of the school to make these exhibits models of taste and workmanship.

In connection with the trade schools may be mentioned the powerful influence that comes from the grand collections of the Deutsche Museum at Munich containing the masterpieces of natural science and technology in original models and demonstrations. Each branch of human industry is represented in its development by numerous models, and the collections constitute one of the grandest examples of objective teaching that can be imagined. The mining of ores, the preparation and working of metals, for instance, is so plainly and amply illustrated that no other form of instruction can equal it. Stones used as building-material are represented by portions of buildings, some of them hundreds of years old, to show the effects of weathering on various materials under the same climatic conditions. The development of house-building, of bridge-building, of ship-building, of electrotechnics, is illustrated in the same manner. These few examples may suffice to indicate the valuable aid which the trade and technical schools derive from these precious collections.

The great fundamental principle, so prominent in German schools, of teaching objectively by appealing directly to the senses, finds its most perfect exemplification in such masterly and comprehensive exhibits of models as those of the Deutsche Museum.

PHYSICAL CARE

Physical training receives much attention in Germany and Switzerland. Large and well-equipped halls for *gymnastic exercises* are connected with nearly all schools and many of the playgrounds are fitted out with apparatus. Two to three hours a week of the regular class time are set aside for systematic gymnastic drill. The pupils of all classes of schools are obliged to take part in these exercises. Besides the regular school grounds, many *playgrounds* have been established, and the movement for increasing their number is advancing very rapidly. Some of the playgrounds are truly ideal and are located in beautiful surroundings. In some cities attendance at play is compulsory and all classes

receive the benefits of healthful sports under the leadership of teachers who have taken special courses to fit them for this work.

The modern school buildings are provided with *shower baths*. These are very roomy, light, airy, and invitingly bright, being constructed of white tiles. They are constantly in operation, classes using them in rotation; attendance of pupils, however, is optional with the parents.

Where rivers or lakes present the opportunities, open-air bathing is encouraged and *swimming* is taught.

Medical inspection is general and the records kept are very interesting. Some of these are extensive, giving a minute account of the family and personal history, others are simple and brief. The records of the backward and exceptional children are the most instructive and include the observations of teachers during the years of the child's school attendance.

At the annual congress of the association for school hygiene which was held from May 31 to June 2 at Dessau, the question of the extent of medical supervision and the extent of the records to be kept was one of the subjects of reports and animated discussions. These conventions are attended by prominent school physicians and specialists, educators, representatives of educational departments of states, and by military officers; they are of great importance, as they tend to unify the efforts for the physical welfare of the children in all parts of the empire.

Several cities have established *open-air schools in the woods* (*Waldschulen*) for sickly children, and my visits to these schools at Charlottenburg near Berlin and at Wesloe near Lübeck convinced me that a great deal can be done for the relief and cure of children in poor health by simple and rather inexpensive means, while at the same time instruction in the essentials of school work is continued.

These schools are located in fine old forests on carefully selected grounds. The buildings are few and of simple construction, just offering protection against unfavorable weather. The children spend all day in the open air. Nearly all instruction is given in the forenoon and every lesson is followed by a period of play or active exercise. After the noonday meal a long period of enforced

rest is considered very essential, and this is followed by play, work in the school garden, observations in connection with nature-study, construction of geographical reliefs in sand, and similar occupations; there are also occasional excursions to places in the neighborhood.

The meals are simple but nourishing; milk is given several times a day. In the evening the children walk a short distance to reach the car that takes them home.

Besides these *Waldschulen* there are numerous *recreation resorts in the woods* (*Walderholungsstätten*) that are conducted in the same manner without furnishing regular and systematic instruction. Improvement of health by constant life in the fresh air, by play, gardening, and other pleasant occupations, by rest and proper feeding, is the aim of these resorts.

The members of the forest schools and resorts are selected by teachers and school physicians; medical supervision is, of course, more frequent, more exact and minute than that of the regular pupils. The number of applicants is always greater than the capacity of schools and resorts. The parents who are able to do so, pay for the transportation and feeding of their children. The results of the open-air life are very satisfactory, as nearly all children gain in weight, strength, cheerfulness, and ability to work.

The degenerating influences of city life on the population of large cities are felt in Germany as elsewhere, and it is recognized that a return to nature is one of the most potent remedies. As the poorer children living in crowded quarters are especially in need of recreation and removal from the city, many thousands of them are sent every year to the sea coast, to lake resorts in the woods, and to the mountains, where they remain in groups of 25 or 30 for three or four weeks. This branch of physical care is splendidly organized under the name of *vacation colonies* and cannot be too highly recommended.

Frequent *outings of classes* to the woods or other scenes of beauty, also to places of historic interest in the neighborhood of cities, are a prominent feature of school life in Germany and Switzerland. Not only do these outings furnish recreation and enrich the knowledge of children, but the contact with nature has a most

salutary influence in elevating and purifying the emotions. The joys of a day of roaming in the fields and woods in cheerful company bring strength and hope to the hearts of all children, but especially of those who live under discouraging conditions.

The most perfect form of outings are the *Schülerwanderungen*. These are carefully planned wanderings on foot, usually lasting five or six days, in the most beautiful regions of the country. Thousands of pupils of the three upper grades are formed into groups of about twenty-five boys or girls and each group is placed under the leadership of a sympathetic teacher who has made himself thoroughly familiar with the region to be visited. The preparations for the trip, the discussions between the leader and his group, the study of guidebooks and maps are very interesting and profitable preliminaries. When the time for departure arrives, the children are taken by train, at small expense, to the starting-point of their tramp, and then begins for them an experience that no teaching at school can equal and whose impressions will last a lifetime. During the days of their wanderings, the beauty of nature brings constantly to the children new and pure delights as they proceed. Mind and body are refreshed, hundreds of new and wonderful impressions are gained, and the souls of all are filled with love for the beauty of their fatherland. The friendly relationship that this delightful experience creates between pupils and teachers is valuable to both; they learn to know each other better than at school, and the gratitude of the children for all that teachers do for them during these excursions is an ample reward.

Among all the great and good impressions received in my travels, the remembrance of the numerous classes of happy boys and girls that I met in the beautiful mountains of Saxony and Bohemia, and in Switzerland, the cheerfulness of these children, their pure delight in the wonders of nature, and their joyful and beautiful songs will never be forgotten.

BOOK REVIEWS

"EDUCATION FOR LIFE IN AMERICAN HIGH SCHOOLS." By DR. WILHELM STEITZ, PH.D. *Neue Jahrbücher*, August, 1912.

In the August number of the *Neue Jahrbücher*, Dr. Wilhelm Steitz, Prussian exchange teacher in the University High School for the year 1910–11, writes on "Education for Life in the American High Schools" ("*Die Erziehung für das Leben an den amerikanischen High Schools*"). He begins by saying that, like most German visitors to American schools, he has received the impression that they do not rank as high as the German schools in scholarship, exact knowledge, and especially historical interpretation. But, he continues, the American schools do not aim at scholarship in the same degree as the German schools, but rather at "education for life." The German schools of course also claim to prepare their students for life, but they try to accomplish this end by means of the scholarly and thorough training given their students in a course in general education. They pursue an indirect method, whereas the American takes the direct way, as he says. Dr. Steitz then proceeds to show what he means by "education for life," basing his observations in the main on his experience at the University High School.

He describes in detail and in an interesting and sympathetic manner those features of the American system which are designed to give social training to the pupils. He discusses the high-school publications, the monthlies, dailies, weeklies, and the annuals, the weekly assembly, athletics, debating, the organization of the classes with their officers and committees, the various clubs, and the school dances. He sees in the large number of short stories in the publications the influence of our monthly magazines, which abound in the form of literary entertainment most agreeable to the nature of the American. Viewed from a pedagogical standpoint, he thinks this form of composition deserves only encouragement, and he finds the stories well written. In the large-typed and sensational headlines and in the optimistic tone and fondness for exaggeration he sees the influence of the daily press.

He discusses the weekly assembly at length and notes especially the training in public speaking which the pupils receive. He finds that the boys and girls speak with assurance and in a simple manner appropriate to the occasion. He observes in the assemblies also that fostering of the spirit of loyalty to the school which is lacking in German schools. The writer remembers, for instance, that in his school days the football enthusiasts remained in ignorance of the victories of the boat crew of their own school.

In the discussion of athletics, the writer is struck by the highly developed system of contests that prevails. After noting that we aim to develop the quality of leadership in the captains, the ability to work for a common cause on the part of the teams, and loyalty on the part of the onlookers, he points out how the athletic contests further the sympathetic relations between teachers and pupils because of the common interest and enthusiasm that they arouse. The contests are, however, so numerous, so exciting, and so time-absorbing that they must of necessity interfere with the ability of the pupils to do scholarly work.

After a sympathetic discussion of the above and many similar features of our educational system, the writer concludes that these things demand so much of the pupil's time and energy that his scholarly attainments cannot be very marked. It seems to him that these features could be introduced into the German system only by sacrificing something of the thorough training that is now given.

The writer then proceeds to compare the results of the two systems of education. The American method is undoubtedly successful in America. For one thing, the pupils have more *Schulfreudigkeit*. They take more pleasure and interest in their school life than German pupils. This, however, is confined only to the features outlined above. When it comes to the studies the *Schulverdrossenheit* is greater with us than among the German pupils. He also considers an important element the greater assurance of bearing and greater self-possession of American students, qualities which so often determine one's success in life. The German graduate of a gymnasium, the *Abiturient*, is an awkward figure in comparison with the high-school Senior. The outward assurance of the Senior is, however, in marked contrast to his intellectual immaturity, his lack of interests in higher intellectual questions, and his ignorance. Early independence in practical matters characterizes the American pupil, but this is probably primarily due to the environment afforded by a new country still rich in possibilities for advancement and to the fact that children are treated as grown-ups much earlier than is customary in Germany. But though the young American shows a greater independence in practical matters, this cannot be said of his independence in intellectual matters. The independent thinkers in America are fewer and the intellectual uniformity is greater than in Germany. The *Abiturient* has a larger capital in the way of possibilities for further intellectual development and the ability to work. The German can acquire at the university and in military service those things in which the young American excels; but the desire for serious thought and study must be implanted early or it will never really exist.

The article is well written and proves the author a careful observer and sympathetic interpreter of conditions widely different from those to be found in the schools of his own country. Such inaccuracies as appear are few and generally unimportant. While we readily agree when he speaks of our admiration for the German educational system, we are surprised at his statement that whenever in America there is a demand for a *höhere Arbeitskraft* we look for a German trained in Germany.

LYDIA M. SCHMIDT

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CHICAGO, ILL.

BOOKS RECEIVED

AMERICAN BOOK CO.

Antoine of Oregon. By JAMES OTIS. Cloth. Pp. 149. Illustrated. Price $0.35.

Hygiene for the Worker. By WILLIAM H. TOLMAN and ADELAIDE WOOD GUTHRIE. Edited by C. WARD CRAMPTON. Cloth. Pp. 231.

Language Lessons for Little People. By JOHN MORROW. Cloth. Pp. 80. Illustrated. Price $0.25.

Kreuz und quer durch Deutsche Lande. By ROBERT MEZGER and WILHELM MUELLER. Cloth. Pp. 260. Price $0.60.

Forge Work. By WILLIAM L. ILGEN. With editorial revision by CHARLES F. MOORE. Cloth. Illustrated. Pp. 210.

The Swallow Book. Gathered by DR. GIUSEPPE PITRÈ. Arranged by ADA WALKER CAMEHL. Cloth. Illustrated. Pp. 158. Price $0.35.

HOUGHTON MIFFLIN CO.

The Teaching of English Classics in the Grammar Grades. Riverside Literature Series. By EUGENE CLARENCE WARRINER. Paper. Pp. 126. Price $0.15.

Word Mastery. By FLORENCE AKIN. Cloth. Illustrated. Pp. 124. Price $0.25.

Selected Stories from the Arabian Nights. Edited by SAMUEL ELIOT. Cloth. Illustrated. Pp. 210. Price $0.50.

First Year in Number. By FRANKLIN S. HOYT and HARRIET E. PEET. Cloth. Illustrated. Pp. 129.

MACMILLAN CO.

Auvergne and Its People. By FRANCES M. GOSTLING. Cloth. Illustrated. Pp. 291.

Experimental Psychology and Pedagogy. By R. SCHULZE. Translated by RUDOLF PINTNER. Cloth. Pp. 364.

STURGIS & WALTON CO.

Genetic Philosophy of Education. By G. E. PARTRIDGE. Cloth. Pp. 401. Price $1.50.

Story-Telling in School and Home. By EMELYN NEWCOMB PARTRIDGE and GEORGE EVERETT PARTRIDGE. Cloth. Pp. 323. Price $1.25.

THE PEOPLE'S UNIVERSITY

Vocation and Learning. By HUGO MÜNSTERBERG. Cloth. Pp. 289.

J. P. BELL CO.

A Study of Mental Fatigue. By W. H. HECK. Cloth. Pp. 28.

GOVERNMENT PRINTING OFFICE

Annual Report of the Board of Regents of the Smithsonian Institution, for the Year Ending June 30, 1911. Cloth. Pp. 688.

CURRENT EDUCATIONAL LITERATURE IN THE PERIODICALS[1]

IRENE WARREN[2]
Librarian, School of Education, the University of Chicago

Abercrombie, D. W. Honesty in school work. Educa. 33:289–99. (Ja. '13.)

Shows the causes of dishonesty on the part of students, and the suggested remedies.

Anderson, Roxanna E. A preliminary study of the reading tastes of high school pupils. Pedagog. Sem. 19:438–60. (D. '12.)

A study by means of questionnaire blanks filled out by the pupils.

Ash, Isaac Emery. The correlates and condition of mental inertia. Pedagog. Sem. 19:425–37. (D. '12.)

Reports a method of testing the originality and mental alertness of pupils by offering pairs of alternative problems or tasks. The results are correlated with general school standing and efficiency.

Ashley, M. L. Education as growth. Educa. Bi-mo. 7:149–52. (D. '12.)

Barnes, Earl. The education of a partially paralyzed muscle. Pedagog. Sem. 19:518–21. (D. '12.)

A brief description of the form of treatment and exercise by which a case of infantile paralysis was greatly ameliorated.

Brown, J. C. An investigation on the value of drill work in the fundamental operations of arithmetic. II. J. of Educa. Psychol. 3:561–70. (D.'12.)

Conclusion of the study showing the advantage of drill over non-drill methods.

Bruner, Frank G. What shall we teach the subnormal child? Educa. Bi-mo. 7:112–23. (D. '12.)

An argument for training of the subnormal child which shall center in specific and concentrated drill in an industrial process.

Buckham, John W. Study of religion in the university. Educa. R. 45:44–57. (Ja. '13.)

[1] *Abbreviations.*—Cent., Century; Educa., Education; Educa. Bi-mo., Educational Bi-monthly; Educa. R., Educational Review; El. School T., Elementary School Teacher; Harp. W., Harper's Weekly; J. of Educa. Psychol., Journal of Educational Psychology; Lit. D., Literary Digest; Man. Train. M., Manual Training Magazine; Outl., Outlook; Pedagog. Sem., Pedagogical Seminary; Pop. Sci. Mo., Popular Science Monthly; Psychol. Clinic, Psychological Clinic; School R., School Review; School W., School World; Sci. Am. Sup., Scientific American Supplement.

[2] Annotations by Dr. F. W. Bobbitt and Dr. F. N. Freeman.

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